

**AMENDMENTS TO THE CLAIMS**

The following listing of claims replaces all prior versions of claims in the application.

1. (Currently Amended) A solvent for dissolving nucleic acids, comprising:  
  
an ionic liquid which can dissolve nucleic acids, said ionic liquid comprising:  
  
at least one cation selected from the group consisting of imidazolium cations and pyridinium cations, and  
  
an anion which is selected from the group consisting of  $[\text{BF}_4]^-$ ,  $\text{PF}_6^-$ ,  $\text{AsF}_6^-$ ,  $\text{SbF}_6^-$ ,  $\text{AlCl}_4^-$ ,  $\text{HSO}_4^-$ ,  $\text{ClO}_4^-$ ,  $\text{CH}_3\text{SO}_3^-$ ,  $\text{CF}_3\text{SO}_3^-$ ,  $(\text{CF}_3\text{SO}_2)_2\text{N}^-$ ,  $\text{Cl}^-$ ,  $\text{Br}^-$ ,  $\text{I}^-$  ~~a halide ion~~ and a carboxylic acid ion having a total of 1 to 3 carbons.
2. (Cancelled)
3. (Currently Amended) The solvent for dissolving nucleic acids of claim 1 ~~or 10~~, wherein said anion is selected from the group consisting of  $\text{Cl}^-$ ,  $\text{Br}^-$ ,  $\text{I}^-$  ~~said halide ion~~ and said carboxylic acid ion having a total of 1 to 3 carbons.
4. (Currently Amended) The solvent for dissolving nucleic acids of claim 1 ~~or 10~~, wherein the ionic liquid is a neutralized ionic liquid.
5. (Currently Amended) The solvent for dissolving nucleic acids of claim 1 ~~or 10~~, wherein said solvent is adapted to preserve nucleic acids or to react nucleic acids.

6. (Cancelled)

7. (Currently Amended) A method for preserving nucleic acids, comprising the step of preserving nucleic acids in a dissolved state within an ionic liquid for at least 120 hours ~~a long term~~.

8-10. (Cancelled)

11. (Currently Amended) A method of dissolving nucleic acids, comprising the step of:

dissolving nucleic acids with an ionic liquid which can dissolve nucleic acids,

wherein said ~~[[ion]]~~ ionic liquid comprises:

at least one cation selected from the group consisting of imidazolium cations and pyridinium cations, and

an anion which is selected from the group consisting of ~~[[BF<sub>4</sub><sup>-</sup>]]~~ PF<sub>6</sub><sup>-</sup>, AsF<sub>6</sub><sup>-</sup>, SbF<sub>6</sub><sup>-</sup>, AlCl<sub>4</sub><sup>-</sup>, HSO<sub>4</sub><sup>-</sup>, ClO<sub>4</sub><sup>-</sup>, CH<sub>3</sub>SO<sub>3</sub><sup>-</sup>, CF<sub>3</sub>SO<sub>3</sub><sup>-</sup>, (CF<sub>3</sub>SO<sub>2</sub>)<sub>2</sub>N<sup>-</sup>, Cl<sup>-</sup>, Br<sup>-</sup>, I<sup>-</sup> ~~a halide ion~~ and a carboxylic acid ion having a total of 1 to 3 carbons.

12. (Cancelled)

13. (Currently Amended) The method of dissolving nucleic acids of claim 11 ~~or 12~~, wherein said anion is selected from the group consisting of Cl<sup>-</sup>, Br<sup>-</sup>, I<sup>-</sup> ~~said halide ion~~ and said carboxylic acid ion having a total of 1 to 3 carbons.

14. (Currently Amended) The method of dissolving nucleic acids of claim 11 ~~or 12~~, wherein the ionic liquid is a neutralized ionic liquid.